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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,073	12/28/2001	Tetsuya Nagano	NGB-12833	2231
40854	7590	09/27/2005	EXAMINER	
RANKIN, HILL, PORTER & CLARK LLP			LONEY, DONALD J	
4080 ERIE STREET			ART UNIT	
WILLOUGHBY, OH 44094-7836			PAPER NUMBER	

1772

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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101034073

EXAMINER
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ART UNIT	PAPER
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02172005

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Commissioner for Patents

The substitute appellants' brief filed June 27, 2005 is in compliance. The appellant has included the four missing header sections. This application, along with a new examiners' answer addressing the section headings is included.

Donald Loney  
Primary Examiner  
Art Unit: 1772



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/034,073  
Filing Date: December 28, 2001  
Appellant(s): NAGANO ET AL.

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James Balazs  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**  
SEP 27 2005  
**GROUP 1700**

This is in response to the appeal brief filed October 25, 2004.

**(1) Real Party in Interest**

A statement identifying the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of the claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on Appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix is correct.

**(8) Evidence Relied Upon**

No new evidence is relied upon by the examiner in the rejection of the claims under appeal.

The following is a listing of the evidence relied upon in the rejection of the claims under appeal.

<b>5,280,388</b>	<b><i>Okayama et al.</i></b>	<b>01-1994</b>
<b>5,444,567</b>	<b><i>Kataoka</i></b>	<b>08-1995</b>
<b>6,099,146</b>	<b><i>Imamura et al.</i></b>	<b>08-2000</b>

**(9) Grounds of Rejection**

***Claim Rejections - 35 USC § 102***

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by either Okayama et al or Kataoka et al.

Both references teach a grating containing a flat groove bottom (i.e. the section between the projections as shown by applicant's figure 1D) and a projection portion (which the applicant refers to as a groove cross sectional shape that is half sinusoidal wave) that is at least rounded in structure that would read upon the recited half sinusoidal wave recitation. Refer to figure 2 in Okayama et al. that shows the wave section (10) and flat grooves portions there between. Refer to elements 13 in figures 7, 8 and 12 in Kataoka et al. which show a similar structure as described above and substantially identical to applicants figure 1D, which is the structure recited in the instant claims.

Claims 3, 5, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Imamura et al.

Imamura et al teaches a grating containing a projection portion (which the applicant refers to as a groove cross sectional shape that is half saw tooth) of a half saw

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tooth wave wherein the groove bottom part is flat. Refer to either figures 1a or 1c. The saw tooth recitation does not distinguish from a square or trapezoidal tooth since no structure distinguishing it there from is recited. See column 7, lines 25-29 wherein  $\beta$  (i.e. equivalent to applicant's duty ratio  $a/b$ ) is between .45 and .55. Also see figure 3 and column 5, lines 63-65 further describing the groove width to groove cycle ratio.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Okayama et al or Kataoka et al in view of Imamura et al.

The primary references teach the invention substantially as recited except for the duty ratio being .5.

Imamura et al teaches to form a grating with a duty ratio of .5. See 35 USC 102 rejection above. The duty ratio or spacing of the grooves is chosen or formed as desired in order to control the efficiency of the grating (refer to column 6, lines 1-61)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the primary references to form a grating having a duty ratio of .5, as is taught to be known from Kataoka et al, motivated by the fact that it is known that the efficiency of the grating is dependent upon the spacing thereof.

**(10) Response to Argument**

Appellants arguments to Okayama et al.

Appellants argue that in figure 2 and 8 in Okayama et al that element 10 is only shown schematically in these figures. This is not found persuasive since these figures, in and of themselves, read directly upon the structure recited in the instant claims. Layer

9 in figure 2 is the positive structure for instant claim 1 and layer 8 would be the replica structure for instant claim 5.

Appellants arguments to Kataoka et al.

Appellants argues that figures 7, 8 and 12 in Kataoka et al are schematic in nature and can not be taken literally. This is not found persuasive since these figures, in and of themselves, read directly upon the structure recited in the instant claims. Element 13 would be the half sinusoidal wave and the section there between the flat groove bottom portion as recited in the instant claims structure.

Appellants arguments to Imamura et al.

Appellants argue that Imamura et al fails to teach a half saw tooth structure and that one would not consider a square wave or trapezoid wave as a half saw tooth wave. This is not found persuasive since the appellant has failed to define a structure that differs from the prior art. The recitation as to a half saw tooth wave is only a recitation of the wave being half the size it could have been. The wave of figure 1a is half the size of  $2d$ , wherein  $d$  can be considered half  $2d$ . The wave of figure 1c can be considered half the size of a triangle that is truncated (i.e. the top is cut off forming a trapezoid structure as shown). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the sloped leading edge and generally vertical trailing face of a half saw tooth) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Appellants arguments to the combination of Okayama et al. or Kataoka et al. in view Imamura et al.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). This is not found persuasive since Imamura et al specifically teaches that the duty ratio is chosen or formed as desired in order to control the efficiency of the grating (refer to column 6, lines 1-61). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to the primary references to form a grating having a duty ratio of .5, as is taught to be know from Kataoka et al, motivated by the fact that it is known that the efficiency of the grating is dependent upon the spacing thereof.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

For the above reasons, it is believed that the rejections should be sustained.



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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,



Donald Loney  
Primary Examiner  
Art Unit 1772

Donald J. Loney  
September 23, 2005

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